I. Project Title: **Humpback chub population estimate in Desolation/Gray Canyon, Green River, Utah**.

II. Principal Investigators:

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III. Project Summary:

The RIP recently identified recovery goals for the endangered humpback chub. Recovery goals are based in part on maintaining populations of humpback chub in several locations, among which is the Desolation/Gray canyon population on the Green River. Identifying, maintaining, and monitoring a population necessitates obtaining accurate population estimates.

Objectives:

1. To obtain a population estimate of late juvenile/adult humpback chub in Desolation/Gray Canyon.

2. To determine if a relationship exists between ISMP catch rates and population size.

IV. Study Schedule:

Reporting year: 2004

V. Relationship to RIPRAP:

General Recovery Program Support Action Plan
V.A.1. Conduct standardized monitoring program.

VI. Accomplishments of FY04 Tasks and Deliverables, Discussion of Initial Findings and Shortcomings:

A final report is being produced that will provide three point estimates for humpback chub in Desolation and Gray canyons for the years of 2001-2003. Additionally, this report will summarize the three years of sampling and serve as a basis for the refinement of humpback chub population estimates to be conducted in the future. At this time approximately 90% of the report has been completed and will be finalized in 2005.

VII. Recommendations:

- Seasonal timing in which population sampling is conducted in Deso/Gray should be considered when assessing population estimates. Lower temperatures in the fall probably decrease stress to Colorado pikeminnow and humpback chub, however catch rates may be lower which may ultimately lower population estimates.

- Electrofishing and sampling with hoop nets and minnow traps should continue during future population estimates to capture juvenile humpback chub. A combination of ½" and 1" inner mesh trammel nets should be used to increase juvenile catch as well.

- Since environmental conditions such as temperature, turbidity, and storm events appear to affect catch rates, conducting at least three passes is recommended. Extreme high or low CPUE may be more accurately interpreted with several data points.

- Current sampling locations for humpback chub collected in Deso/Gray should be re-examined. Substituting the Surprise Canyon site for the Big Bend site should be considered.

- Due to the ambiguity of chub characteristics in Deso/Gray we further recommend the collection of the entire suite of morphometric measurements provided in Douglas et al. (1998) or as recommended in Douglas et al. (2001), the use of geometric morphometrics with a genetic component to further verify species identifications and the degree of intermediacy present within species.

XIII. Project Status: Ongoing

Report near final stages of revision.

IX. FY04 Budget:

A. Funds budgeted:	$ 12,100
B. Funds expended/obligated:	$ 10,890
C. Difference:	$ 1,210
D. Percent FY2004 work completed: 90%	
E. Recovery Program funds spent for publication charges:	$ 0

Remaining funds will be spent on completing the report.

X. Status of report submission:

Report will be finalized following approval from Biology Committee and Program Directors Office.

XI. Signed: Julie A. Jackson Date: 11/25/2004